

should have bright warning colors, yet is of a uniform and inconspicuous brownish yellow. According to hypothesis, furthermore, birds are supposed to learn about disagreeable insects when young and thus be trained when adult to ignore them. In this case, however, experiment is usually followed by death, so that experience is not conserved. What is more, the insect is not dangerous to adult birds, so that, adopting this style of argument for the moment, early bad experience probably would be overcome by later satisfactory trials.

We do not know whether eating rose chafers has a bad effect upon the young of wild birds, but we do know that the adults of a number of species feed upon these insects. So far, rose-beetles have been found in stomachs of 12 wild species. The Kingbird seems especially fond of them, from 12 to 40 rose-chafers being found in each of several collected stomachs.

The case is analogous to that of numerous birds feeding extensively upon the fruits of poison sumacs. A known poisonous principle, which at first thought we should be inclined to consider a preventive against eating by wild animals, is proved by the observed facts to have no such effect. Other analogies are by no means rare, and it would seem that if carefully pondered, they would serve to check the enthusiasm with which anthropomorphic explanations of animal behavior are advanced.—W. L. MCATEE, *Washington, D. C.*

A Fossil Feather from Taubaté.—Fossil birds are rare enough when we come to consider how very few of them have fallen into the hands of science, as compared with the great quantity of material we have representing the fossil forms of other Vertebrata; and, as to fossil feathers, they are many times rarer than those of the birds themselves. Without inviting special attention to the literature on this subject—for numerous authors have contributed to it, myself among the number—I would say that the specimen here to be described was kindly sent me for that purpose by Herr Director Dr. von Ihering, of the Museu Paulista, São Paulo, Brazil; it came by registered mail, the letter of transmittal being dated January 8, 1915.

The locality where this specimen was found has yielded many fine fish fossils, which have been described by Dr. A. S. Woodward, of the British Museum, while the locality itself has been touched upon by Dr. von Ihering himself in an article entitled: 'Observações sobre os peixes fósseis de Taubaté,' which appeared in volume iii (p. 71) of the 'Revista do Museu Paulista' for the year 1898. As the locality is fully described in that contribution, it will not be necessary to further refer to it in this note.

The matrix is of dark chocolate brown, with a leathery roughness on the side carrying the fossil; on the other side it is somewhat lighter in color, and exhibits evidences of cleavage horizontally. In size the slab measures about 14 cm. by 7.5 cm., and it has an average thickness of 3 mm. It bears evidence of having been cut out of its place where collected with some sharp instrument—perhaps a strong knife. As noted above, the specimen

contained in this matrix is upon its dark side, and is, without doubt, the feather of some rather large bird. When the slab is wet, this feather comes out much more clearly into view, and when it was in that condition, I made a photograph of it natural size, to file, along with similar ones, in my collection.

Although this fossil feather has the appearance of being somewhat plumulaceous in character, I am strongly of the opinion that it is a primary feather from a wing. Its quill has a length of about 4 cm., and the vane about 7.3 cm. In other words, it was a feather about 11.3 cm. long, and apparently belonged to a bird of considerable size. As the photograph shows, the impression is very faint, and even with a strong lens it is quite impossible to make out the minute structure or any part of it, as is so frequently the case in fossil feathers. This specimen is No. 111 in the Paulista Museum, and is of interest from the fact that it furnishes evidence of the existence of highly developed birds in that particular formation in which it occurred.—R. W. SHUFELDT, *Washington, D. C.*

RECENT LITERATURE.

Bryan's Natural History of Hawaii.¹—Quoting the words of the author in his preface: "In the preparation of the following pages it has been the aim of the author to bring together into one volume the more important and interesting facts about the Hawaiian Islands and their primitive inhabitants, as well as information concerning the native and introduced plants and animals of the group."

The results of the author's labors appear in a large volume of nearly 600 pages, illustrated by 117 full-page plate photographs. The scope of the volume and the subjects treated appear from the following chapter headings:

Coming of the Hawaiian Race; Tranquil Environment of Hawaii and its Effect on the People; Physical Characteristics of the People; Their Language; Manners and Customs; Religion of the Hawaiians; Their Method of Warfare and Feudal Organization; The Hawaiian House: Its Furnishings and Household Utensils; Occupations of the Hawaiian People; Tools, Implements, Arts and Amusements of the Hawaiians; Coming of Pete

¹ "Natural History of Hawaii." Being an Account of the Hawaiian People, the Geology and Geography of the Islands, and the Native and Introduced Plants and Animals of the Group. By William Alanson Bryan, B. Sc., Professor of Zoölogy and Geology in the College of Hawaii. The Hawaiian Gazette Co., Ltd., 1915. Price, \$5.50.